REDACTED

From: Terrence M VanDerbosch
Sent: Wednesday, August 03, 2016 2:51 PM
To: Brian James Beller <brian.beller@basf.com>; Leon Zavodnik <leon.zavodnik@basf.com>; Gregory A Menz <gregory.menz@basf.com>
Cc: Andrew Myers <andrew.myers@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Robert Scoggins <robert.scoggins@basf.com>
Subject: RE: PK Blender Valve

Still leaks. Gem noticed that when the diaphragm was replaced, it looks like the gasket was not, so it still leaks. They are looking for a rebuild kit. They are hoping for it tomorrow.

From: Brian James Beller
Sent: Wednesday, August 03, 2016 1:44 PM
To: Leon Zavodnik <leon.zavodnik@basf.com>; Gregory A Menz <gregory.menz@basf.com>
Cc: Andrew Myers <andrew.myers@basf.com>; Brian James Beller <brian.beller@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Robert Scoggins <robert.scoggins@basf.com>; Terrence M VanDerbosch <terrence.vanderbosch@basf.com>
Subject: PK Blender Valve

Guy and GEM both worked on this today. It looks like the valve is working now. They adjusted and calibrated it. We are testing it now.

Thanks

Brian Beller
Group Lead - South Production

Phone: 1 (440) 329-2561, Mobile: 1 (440) 242-8048, Email: brian.beller@basf.com
Postal Address: BASF Corporation, 120 Pine Street, 44035 Elyria, United States

REDACTED

From: Rob Temkiewicz
Sent: Tuesday, August 02, 2016 5:02 PM
To: Leon Zavodnik <leon.zavodnik@basf.com>
Cc: Brian James Beller <brian.beller@basf.com>; Andrew Myers <andrew.myers@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Terrence M VanDerbosch <terrence.vanderbosch@basf.com>; Guy Baetjer <guy.baetjer@partners.basf.com>; Guy Baetjer <gbaetjer@imccontrol.com>
Subject: RE: PK Blender

Alright,

After getting a clear picture of the valve, it is a spring return. It is a Bettis CBB420-SR60.

The issue mentioned below is not the case. We will continue troubleshooting it in the morning. We did work on it last Friday though, and it seemed to be working properly. I'd like to work with an operator to understand the issue.

Rob Temkiewicz
Controls Engineer - Elyria, OH

Phone: 440-329-2417 | Tie-Line: 8-322-2417 | Mobile: 440-370-4901 E-Mail: Rob.Temkiewicz@basf.com
Postal Address: BASF Corporation, 120 Pine Street, Elyria, OH 44035, USA

From: Rob Temkiewicz
Sent: Tuesday, August 02, 2016 3:17 PM
To: Leon Zavodnik <leon.zavodnik@basf.com>
Cc: Brian James Beller <brian.beller@basf.com>; Andrew Myers <andrew.myers@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Terrence M VanDerbosch <terrence.vanderbosch@basf.com>
Subject: PK Blender

Leon,

I just called you, but you must be out. I'm letting you know that Guy from IMC isn't sure that the new valve for the PK Blender is air to open or fail to close position. We are currently looking into it, but it should not be operated until this is confirmed. He's taking a picture of the serial number and forwarding it to me to make sure it is the correct valve.

Does anyone know who purchased the valve/had it installed? I'm going to be asking around while I wait.

Rob Temkiewicz
Controls Engineer - Elyria, OH

Phone: 440-329-2417 | Tie-Line: 8-322-2417 | Mobile: 440-370-4901 E-Mail: Rob.Temkiewicz@basf.com
Postal Address: BASF Corporation, 120 Pine Street, Elyria, OH 44035, USA

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[redacted]

From: Leon Zavodnik
Sent: Monday, August 01, 2016 2:01 PM
To: Gregory A Menz <gregory.menz@basf.com>; Lee Charles McClish <lee.mcclish@basf.com>; Stefan Joseph Niewiadomski <stefan.niewiadomski@basf.com>; Guy Baetjer <guy.baetjer@partners.basf.com>; Raymond Eliott Hazlerig <raymond.hazlerig@basf.com>; Rob Temkiewicz <rob.temkiewicz@basf.com>
Cc: Andrew Myers <andrew.myers@basf.com>; Brian James Beller <brian.beller@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Robert Scoggins <robert.scoggins@basf.com>; Terrence M VanDerbosch <terrence.vanderbosch@basf.com>
Subject: PK blender & Hoist & 6 RC

We are still having issues with the PK valve. Who can look and advise on what to do as it is two weeks that we have been working on it.

Also need a fall back for the hoist on 4 Blender if we cannot fix it. Do we have another similar hoist that could be moved? If not parts need to be expedited.

I hear that 6 RC is close. Thanks for getting that done. We should plan on tuning tomorrow. If we cannot get it lit tonight please consider a high priority and call in if needed

Regards,
Leon Zavodnik
Operations Manager

Phone: +1 440 329-2592 Mobile: 440-821-6647 E-Mail: leon.zavodnik@basf.com
Postal Address: BASF Corporation, Elyria, 44035 Elyria, USA

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[redacted]

From: Brian James Beller
Sent: Wednesday, July 20, 2016 9:35 PM
To: Gregory A Menz <gregory.menz@basf.com>
Cc: Leon Zavodnik <leon.zavodnik@basf.com>; Andrea Bal <andrea.bal@basf.com>; Andrew Myers <andrew.myers@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Robert Scoggins <robert.scoggins@basf.com>; Terrence M VanDerbosch <terrence.vanderbosch@basf.com>
Subject: RE: PK blender

We tried again tonight with the PK valve and it is still not working properly. It will open but the operators are having problems with closing it.
I am also putting in a WO of the discharge chute. It look like it was hit and is not sealing properly.

Thanks

Brian Beller
Group Lead - South Production

Phone: 1 (440) 329-2561, Mobile: 1 (440) 242-8048, Email: brian.beller@basf.com
Postal Address: BASF Corporation, 120 Pine Street, 44035 Elyria, United States

---

From: Brian James Beller
Sent: Tuesday, July 19, 2016 10:01 PM
To: Gregory A Menz <gregory.menz@basf.com>
Cc: Leon Zavodnik <leon.zavodnik@basf.com>; Andrea Bal <andrea.bal@basf.com>; Andrew Myers <andrew.myers@basf.com>; Brian James Beller <brian.beller@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Robert Scoggins <robert.scoggins@basf.com>; Terrence M VanDerbosch <terrence.vanderbosch@basf.com>
Subject: PK blender

FYI, We tried to start the PK tonight but the new discharge valve is not running correctly. It looks like the air lines may be hooked up backwards, when we put air to it and try to open, the valve seals closed, and we are not able to open it.

Thanks

Brian Beller

Group Lead - South Production

Phone: 1 (440) 329-2561, Mobile: 1 (440) 242-8048, Email: brian.beller@basf.com
Postal Address: BASF Corporation, 120 Pine Street, 44035 Elyria, United States

[redacted]

From: Brian James Beller
Sent: Tuesday, July 19, 2016 10:01 PM
To: Gregory A Menz <gregory.menz@basf.com>
Cc: Leon Zavodnik <leon.zavodnik@basf.com>; Andrea Bal <andrea.bal@basf.com>; Andrew Myers <andrew.myers@basf.com>; Brian James Beller <brian.beller@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Robert Scoggins <robert.scoggins@basf.com>; Terrence M VanDerbosch <terrence.vanderbosch@basf.com>
Subject: PK blender

FYI, We tried to start the PK tonight but the new discharge valve is not running correctly. It looks like the air lines may be hooked up backwards, when we put air to it and try to open, the valve seals closed, and we are not able to open it.

Thanks

Brian Beller
Group Lead - South Production

Phone: 1 (440) 329-2561, Mobile: 1 (440) 242-8048, Email: brian.beller@basf.com
Postal Address: BASF Corporation, 120 Pine Street, 44035 Elyria, United States

REDACTED

From: Brian James Beller
Sent: Saturday, June 25, 2016 6:05 PM
To: Andrea Bal <andrea.bal@basf.com>; Andrew Myers <andrew.myers@basf.com>; Arthur J Hribar <art.hribar@basf.com>; Brian James Beller <brian.beller@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Gregory A Hebb <greg.hebb@basf.com>; Gregory A Menz <gregory.menz@basf.com>; Jack A Pettry <jack.pettry@basf.com>; Jefferson Wilson Lewis <jefferson.lewis@basf.com>; John E Peshek <john.e.peshek@basf.com>; John M Bodmann <john.bodmann@basf.com>; Justin Quach <justin.quach@basf.com>; Kirk J Sullenberger <kirk.sullenberger@basf.com>; Kristen Kaput <kristen.kaput@basf.com>; Leon Zavodnik <leon.zavodnik@basf.com>; Mark S Goodman <mark.goodman@basf.com>; Raymond Eliott Hazlerig <raymond.hazlerig@basf.com>; Robert E Urig <robert.urig@basf.com>; Robert Scoggins <robert.scoggins@basf.com>; Stefan Joseph Niewiadomski <stefan.niewiadomski@basf.com>; Terrence M VanDerbosch <terrence.vanderbosch@basf.com>; William Daniel Deisenroth <william.deisenroth@basf.com>; William Owen Tuttle <william.o.tuttle@basf.com>
Subject: Saturday update

#1 med continues on. We are staying well ahead of the calciner
#1 Calciner- no issues

#2 MED – continues – no issues
#2 Calciner is feeding – no issues

#3 MED – Cleaning continues, not able to fully staff but we are getting stuff done
#3 Calciner – will start cleaning as I have people available.

#4 calciner – about 3 bags left to feed. Probably will be done Sunday afternoon sometime.

#5 Calciner – bringing temps back up- Eliott came to take a look at the probe today and does not think the issue is with the probe. Kirk has it disabled the interlock until we can get it changed out.

#6 Calciner – No issues

PK Blender- we had a leaking pump last night but maintenance switched it out for us this morning. Will run as manpower permit.

East Pfauder – the line is pretty full. We have been making batches to keep material ready for #6.

West Pfauder – We have been doing good, no issues with spray arm coming off. I think that we have 1 more batch to go. The solution is kind of low in tank 7- hopefully we will have enough.

Tank 6 – we washed it out and will be making up the tank tonight.

Towers – we are down and holding right now until we can get some material screened.
Screeners- started screening the 406 this afternoon – we had an issue with a nitrogen regulator in the screening room- maintenance replaced it today.

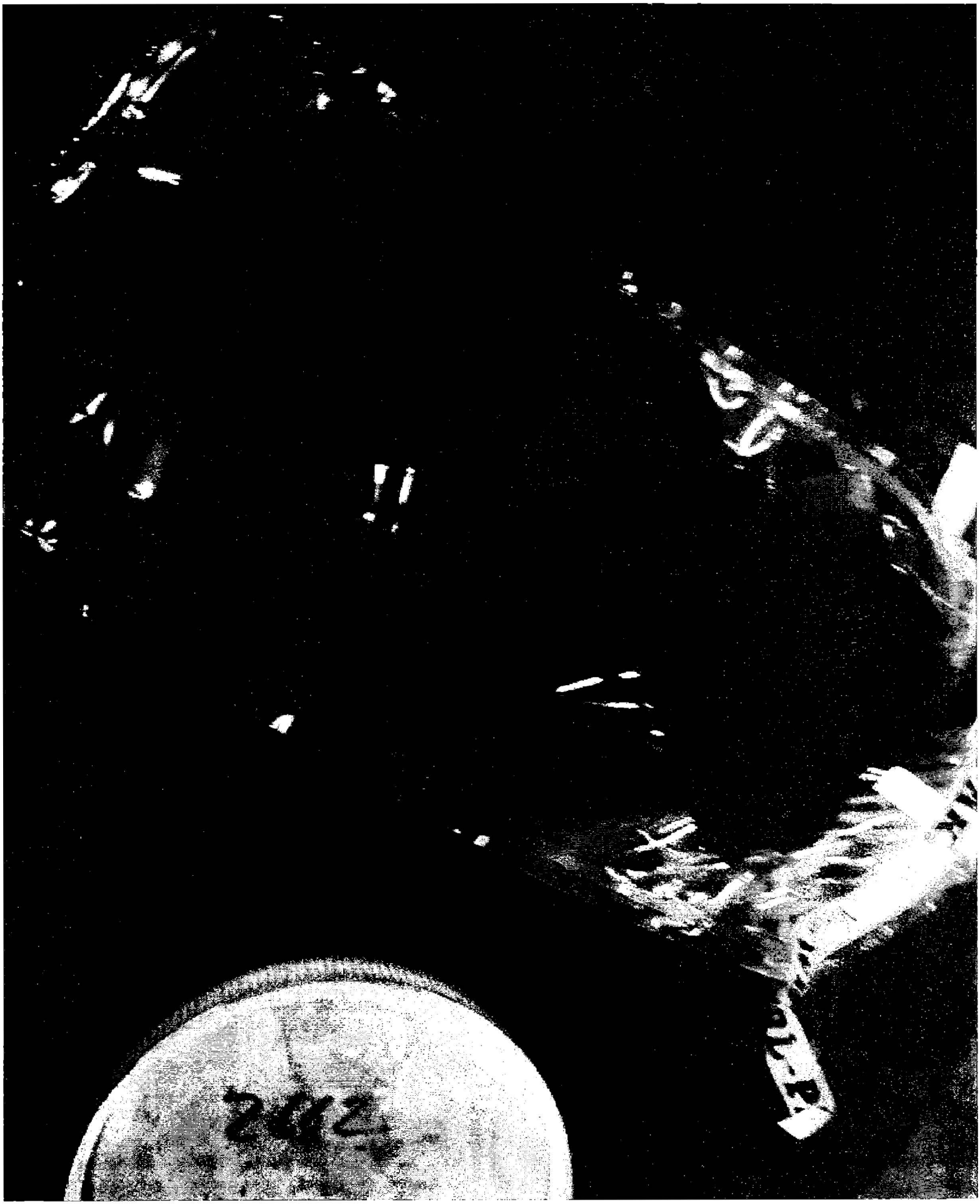
TK4 screening – have been staffing about 1 shift per day.

Belt filter – staffing most shifts. No issues.

Thanks

Brian Beller
Group Lead - South Production

Phone: 1 (440) 329-2561, Mobile: 1 (440) 242-8048, Email: brian.beller@basf.com
Postal Address: BASF Corporation, 120 Pine Street, 44035 Elyria, United States



REDACTED

From: Justin Quach
Sent: Monday, June 13, 2016 10:10 AM
To: Leon Zavodnik <leon.zavodnik@basf.com>; Brian James Beller <brian.beller@basf.com>; Andrew Myers <andrew.myers@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Terrence M VanDerbosch <terrence.vanderbosch@basf.com>; Arthur J Hribar <art.hribar@basf.com>; Noemi N Trent <noemi.trent@basf.com>
Subject: Pk lining

All,

The PK blender lining is coming off again already, we redid it last week right? This could cause problems with the pillmix. Thx

Regards,

Justin Quach
Process Engineer - Catalysts

Phone: +1 440 329-2501 Mobile: +1-440-822-9800 Fax: +1 440 329-2403 E-Mail: justin.quach@basf.com
Postal Address: 120 Pine St, Elyria, OH 44035, USA

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[redacted]

From: Andrea Bal [mailto:andrea.bal@basf.com]
Sent: Thursday, June 09, 2016 9:30 AM
To: Leon Zavodnik <leon.zavodnik@basf.com>
Subject: Change Management 0084-SOPS-16-0125: Submitted

Change Management 0084-SOPS-16-0125 (Removable Cap for PK Blender Discharge) has been submitted and is now available for your approval.

Please click on the link below to view the document.

Change Management Form: 0084-SOPS-16-0125

Removable Cap for PK Blender Discharge

ELYRIA - South Operation-Elyria

STATUS: **Cancelled**

1. Definition

Section 1: Change Definition

Section Status: **Complete**

Site *	Unit/Department *	Process Area	Change Number
ELYRIA	**South Operation-Elyria**	**General Catalyst – Building 9**	**0084-SOPS-16-0125**

Change Requestor	Change Coordinator (Project Eng./Mgr.)
Andrea Bal/NA/BASF	**Andrea Bal/NA/BASF**
Type of Change *	Target StartUp Date *
● Permanent ○ Temporary ☐ Emergency?	**06/10/2016**
Capital Project? *	
○ Yes ● No	

Change Title *
Removable Cap for PK Blender Discharge

Description of Change * (Project Statement -- attach drawing if possible)
Add removable cap to end of PK blender. Cap will be chained to the end of the PK to prevent flying off and have enough clearance for blender rotation. It will snap on and off with a clamp.
Technical Basis or Reason for Change * (Justification)
Cap will capture any material which leaks out of the PK discharge valve during the batch and prevent the material from dusting throughout Building 9. Previously, the sock on the PK (removed via MOC #0084-SOPS-16-0075) capture leaking material from the valve, but did a poor job.

Submit To Approver *	Copy To
Leon Zavodnik/BASF-CATALYSTS/BASF	

Submitted by: Andrea Bal on 06/09/2016 09:30 AM

Initiated By: Andrea Bal/NA/BASF on 06/09/2016 09:26 AM

2. ApprovalToProceed

Section 2: Assign Technical Reviewers, Approval to Engineer

Section Status: **Complete**

Customer/Quality Review Needed? ** **N/A**	Customer Notification Status: **Not Applicable**

Confidential Information

Approval / Technical Review? ** ○ Yes ● No

Individual Approval / Review Needed? ** ○ Yes ● No

Unit Change Approver	Copy Additional Personnel
Leon Zavodnik/BASF-CATALYSTS/BASF	**Leon Zavodnik/BASF-CATALYSTS/BASF; Tim Anglin/EB-NAFTA/BASF; Noemi Trent/BASF-CATALYSTS/BASF; Abdallah**
Does this Change have the Unit's Approval to Proceed? **	Comments
Approved by: Leon Zavodnik on 06/09/2016 11:28 AM	

3. Risk

Section 3: Risk Assessment (Impact on Safety & Health)

Section Status: **Complete**

Select one or more methods **: ☒ Risk Level Assessment ☐ Mode of Failure ☒ PHA/Step Review/Other

Attach Associated Documents
MOC Risk Notes 0084-SOPS-16-0125 PK Cap.docx

Risk Assessment

Section I - Degree of Hazard **	
1. ○ Yes ● No	Does the change introduce or substantially affect a significant source of chemical, mechanical, thermal, or electrical energy? Examples: Installation / modification of 100 hp motor Increasing steam supply pressure to a vessel
2. ○ Yes ● No	Does the change result in any increase in inventory of toxic, flammable, or reactive (equivalent to a "4" rating in the NFPA or HMIS systems) materials? If so, is this a new threshold for PSM or RMP (or any relevant regulatory requirements) covered chemicals?
3. ○ Yes ● No	Are established PSM or RMP (worst case scenario) boundaries extended to new piping or equipment?
4. ○ Yes ● No	Will the changed process system contain any materials known or suspected to be thermally, chemically, or physically unstable in quantities or concentrations high enough to cause a hazard?
5. ○ Yes ● No	Does the change significantly increase the potential for personnel exposure to a hazardous material?
6. ○ Yes ● No	Does the change introduce or substantially affect any special or unique hazards that could cause significant negative community impact?
Hazard Rule: ● **Low** ○ **High**	

Section II - Significance of Proposed Change **	
1. ○ Yes ● No	Could the change take the process outside previous limits of normal operation (that is, outside the well understood and documented "safe operating envelope") during steady state or transient conditions?
2. ○ Yes ● No	Does the change introduce molecules not already present in the process?

3. ○ Yes ● No	Are PSV's or rupture disks changed, affected, or bypassed?
4. ○ Yes ● No	Does the change re-order or alter the processing sequence and consequently by this alteration introduce a hazard?
5. ○ Yes ● No	Does the change significantly impact the energy balance or mass balance?
6. ○ Yes ● No	Does the change alter, affect, or bypass a safety device or a critical control system or component or are safety instrumented system (SIS) interlocks changed, affected, or bypassed?
7. ○ Yes ● No	Does the change necessitate significant or unique training for operators or technical personnel?
8. ○ Yes ● No	Does the existing system handle reactively incompatible materials in the same equipment during different sequences or campaigns?
Significance Rule: ● **Low** ○ **High**	

RISK LEVEL ASSESSMENT: ● **Level 1** ○ **Level 2** ○ **Level 3** ○ **Level 4**

Reviewers for Impact on Safety & Health**
Brian Beller/NA/BASF; Leon Zavodnik/BASF-CATALYSTS/BASF; Andrea Bal/NA/BASF

4. Checklist

Section 4: PSSR Checklist & Action Items

Section Status: **Working**

CHECKLIST NAME	CHECKLIST STATUS
Pre-StartUp	**Working**
Post-StartUp	**Working**

Comments

Click on the Refresh button to ensure all action items are updated.

Items To Complete Prior To StartUp

Items May Be Completed After StartUp

Attachments

5. Training

Section 5: Training Acknowledgement

Section Status: **Working**

Click on the Refresh button to ensure all action items are updated.

Training needed for affected personnel

13. Inform Personnel of Change(s) by Lotus Notes DB	● Yes ○ No
14. Training with testing or other training means	○ Yes ● No
15. Contractor Employees informed / Trained and/or, BASF Employees not in department. Example, Maintenance employees	○ Yes ● No

StartUp Date / Time :

Additional Training Information
Contractors are not affected by this change. Operators will be informed via the MOC board.

- **I have reviewed and understand the change(s) and/or I have been trained on/in the change and the affected procedures/hazards as they apply to my job task**

Personnel Notified	Signoff Date **
Brian Beller/NA/BASF Andrew Myers/NA/BASF Terrence M Vanderbosch/BASF-CATALYSTS/BASF	Pending Pending Pending Pending

6. PSSR

Section 6: PSSR Completion

Section Status: **Working**

Item	Description	Signed By & Date **
A.	Construction and Equipment are in accordance with design specifications. **	
B.	PSSR Long Form(s) required? **	
C.	A field verification walk of all systems has been completed. ** Attachment(s)	

StartUp Date	StartUp Time

No.	Walk-through Description	Complete	Completed By & Date

PSSR Date (**This field is required if Question B above is answered 'Yes')	PSSR Team Members (**This field is required if Question B above is answered 'Yes')	PSSR Team Members (not in DB)

7. StartupApproval

Section 7: Approval to StartUp

Section Status: **Working**

StartUp Date / Time :	

Approvals are required before StartUp according to site procedures.

Approver	Approved By
EHS	
TES	
Maintenance	
Construction	
Operations	
Other	
Other	
Unit Final Approver **	**Leon Zavodnik/BASF-CATALYSTS/BASF**

8. Temporary

Section 8: Temporary Change Management - Not Applicable

9. Change Close Out

Section 9: Change Close Out

Section 1: Change Definition	**Complete**
Section 2: Assign Technical Reviewers, Approval to Proceed	**Complete**
Section 3: Risk Assessment (Impact on Safety and Health)	**Complete**
Section 4: PSSR Checklist and Action Items	**Working**
Section 5: Training Acknowledgement	**Working**
Section 6: PSSR Completion	**Working**
Section 7: Approval to StartUp	**Working**
Section 8: Temporary Change Management	**Not Applicable**

Comments:
After completing walk-through a change, it was determined capping the blender was not effective. The risk of the cap flying off or damaging the discharge chute was greater than any dusting from the valve. (See comments.)

Cancelled by: Andrea Bal on 8/30/2016 2:48:03 PM

Edit History

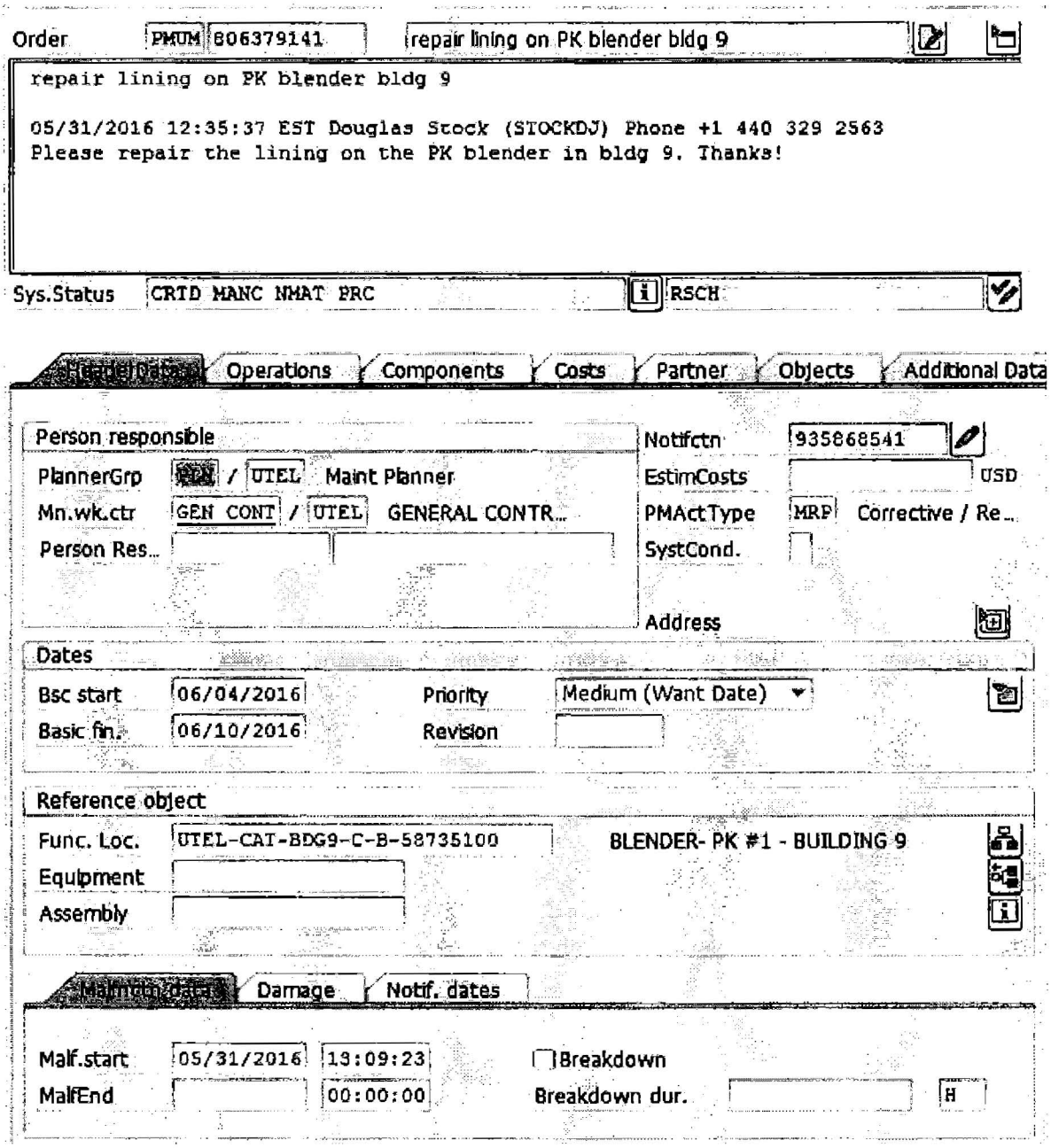
Editor	Date & Time
Andrea Bal	08/30/2016 02:48 PM
Leon Zavodnik	06/09/2016 11:28 AM
Andrea Bal	06/09/2016 11:14 AM
Andrea Bal	06/09/2016 09:48 AM
Andrea Bal	06/09/2016 09:36 AM

[redacted]

From: Stefan Joseph Niewiadomski
Sent: Tuesday, May 31, 2016 1:12 PM
To: Geredco <geredco@windstream.net>; William Daniel Deisenroth <william.deisenroth@basf.com>
Cc: Douglas John Stock <douglas.stock@basf.com>; Brian James Beller <brian.beller@basf.com>; Terrence M VanDerbosch <terrence.vanderbosch@basf.com>; Andrew Myers <andrew.myers@basf.com>; Leon Zavodnik <leon.zavodnik@basf.com>
Subject: RE: Shutdown (PK Blender - non-shutdown)

Hi Louise,

I will let you know on the Pfaudler inspection. In the meantime, I have a work order for the PK Blender lining. I have not received confirmation on definite availability, but I am looking into it but something for you to consider this week if possible.



Stefan Niewiadomski

Mobile: +1-440-319-2130 E-Mail: stefan.niewiadomski@basf.com
Postal Address: BASF Corporation, Elyria, 44035 Elyria, USA

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From: Geredco [mailto:geredco@windstream.net]
Sent: Friday, May 27, 2016 1:25 PM
To: Stefan Joseph Niewiadomski <stefan.niewiadomski@basf.com>; William Daniel Deisenroth <william.deisenroth@basf.com>
Subject: RE: Shutdown

Steve
I am just checking if you decided on a date yet for your inspection?
Louise

From: Geredco [mailto:geredco@windstream.net]
Sent: Friday, May 20, 2016 1:09 PM
To: 'Stefan Joseph Niewiadomski' <stefan.niewiadomski@basf.com>; 'William Daniel Deisenroth' <william.deisenroth@basf.com>
Subject: RE: Shutdown

Sound good, thanks.
Louise

From: Stefan Joseph Niewiadomski [mailto:stefan.niewiadomski@basf.com]
Sent: Friday, May 20, 2016 12:37 PM
To: Geredco <geredco@windstream.net>; William Daniel Deisenroth <william.deisenroth@basf.com>
Subject: RE: Shutdown

Louise,

I will look for an opening when production is down and let you know in advance.

Thanks

Steve

Stefan Niewiadomski

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Postal Address: BASF Corporation, Elyria, 44035 Elyria, USA

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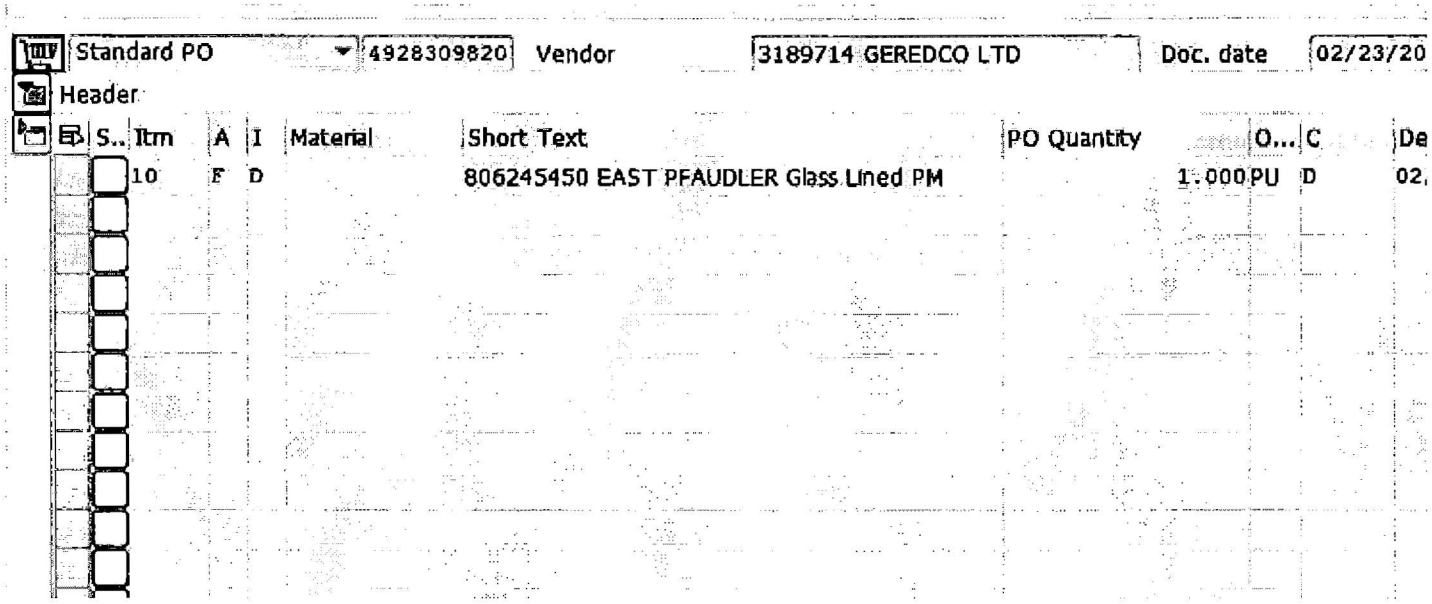
From: Geredco [mailto:geredco@windstream.net]
Sent: Thursday, May 19, 2016 11:00 AM
To: Stefan Joseph Niewiadomski <stefan.niewiadomski@basf.com>; William Daniel Deisenroth <william.deisenroth@basf.com>
Subject: RE: Shutdown

Steve,
I am sorry but due to prior commitments the week of July 11th, we are unable to come at that time.
Is it possible to reschedule your shutdown?
We have pretty much of June open except week of the 13th.
We are open the weeks of July 18 & 25th & August 1st.
Please advise if any of these would work for you.
Louise

From: Stefan Joseph Niewiadomski [mailto:stefan.niewiadomski@basf.com]
Sent: Thursday, May 19, 2016 10:29 AM

To: William Daniel Deisenroth <william.deisenroth@basf.com>; Geredco <geredco@windstream.net>
Subject: RE: Shutdown

The purchase order is still good. When planning this PM, I would recommend later in the week so that we can ensure that it is blanked off prior to your arrival. I received your e-mail yesterday and slated the job for shutdown. Please let me know what day works for you and I will schedule it. Thanks Steve



Stefan Niewiadomski

Mobile: +1-440-319-2130 E-Mail: stefan.niewiadomski@basf.com
Postal Address: BASF Corporation, Elyria, 44035 Elyria, USA

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From: William Daniel Deisenroth
Sent: Thursday, May 19, 2016 10:13 AM
To: Geredco <geredco@windstream.net>
Cc: Stefan Joseph Niewiadomski <stefan.niewiadomski@basf.com>
Subject: RE: Shutdown

Hi Louise,

Our shutdown is scheduled for the week of July 11th. We are in the process of developing a list of jobs that will be done during the shutdown and I know we want to do the East Pfaudler glass PM. Steve Niewiadomski is contact person heading the shutdown planning process. If you need more details, please contact Steve. His phone number is 440-329-2544

Bill

William D Deisenroth
Technical Engineering Services (TES) Manager
Engineering & Maintenance

Phone: 440 329-2582, Mobile: 440-822-1220, Email: william.deisenroth@basf.com

Postal Address: BASF Corporation, 120 Pine Street, Elyria, OH 44035, United States

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From: Geredco [mailto:geredco@windstream.net]
Sent: Wednesday, May 18, 2016 3:02 PM
To: William Daniel Deisenroth <william.deisenroth@basf.com>
Subject: FW: Shutdown
Importance: High

Bill
I understand Matt is no longer at BASF & you are now
the contact person.

Do you have a schedule for your shutdown?
We are getting booked up & with the techs vacations,
We want to make sure we can schedule it in, please advise?

I still have PO 4928309820 in my tray. Is this still good?
Louise

REDACTED

From: Andrea Bal
Sent: Monday, May 23, 2016 10:12 AM
To: Andrew Myers <andrew.myers@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Terrence M VanDerbosch <terrence.vanderbosch@basf.com>; Brian James Beller <brian.beller@basf.com>
Cc: Leon Zavodnik <leon.zavodnik@basf.com>
Subject: PK Blender Scrubber dP

Hi All,

After opening up the slide gate on the day tank, the dP went up from 1.2 to 1.7. Opening all of the ports/caps on the scrubber tank brought the dP up to 2.1. This seems to have been an ongoing issue as the batch sheet recorded dPs have been low, out of range. We need to reiterate to the operators that they must operate the PK with the Title V values in range, even though these aren't the official readings. Making batches with it out of range could cause serious problems if the value cannot be correct for the official reading. See attached batch sheet with recorded values.

Best Regards,
Andrea

Andrea Bal
Production Engineer

Phone: +1 440-329-2549 Mobile: 440-225-4182 E-Mail: andrea.bal@basf.com
Postal Address: BASF Corporation, 120 Pine St., Elyria, OH 44035, USA

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Issued 5/2/2016

Oxyvinyls Catoxid IMPREGNATION PROCEDURE & BATCH SHEET

Article Number: 56222016

SAP order #.: ~~204171819~~ 204515039 A.B. 5/2/16

TITLE V REQUIRMENTS MUST BE CHECKED BEFORE EACH BATCH. IF EITHER of these are not met, DO NOT RUN. Notify GL Immediately.

1) dP across dust collector baghouse must be 3" to 5". Record value below.
2) Verify scrubber flow (check site glass) and check dP across scrubber (must be >2" H2O). Record value below.
3) Make sure PK is empty and the Dust Collector valve is postioned to "LOAD".
4) Load PK blender with: **2205 lbs** (= 1 metric ton bag) Alumina, Puralox SCCA 25/190. *(Article: 57350174)*
5) Charge day tank and mix/recycle for 5 minutes: **480** lbs of chromic acid solution, 50% as CrO3. Adjust according to s.g. chart (580 lbs of solution is approx 39 gallons) *(Article: 57349167)*
   Do not heat solution! 74 Start with 74 gallons of water and adjust as needed (based on alumina lot no. being used.)
6) Check to make sure air lines are disconnected from valve before you start spinning. ALWAYS connect/disconnect the low pressure line FIRST.
7) Start rotating PK blender.
8) Slowly pump all solution from day tank to PK blender over a period of 20-30 minutes (~35 lb/min). If necessary, solution addition rate can be increased by choking back on the recycle line or slowed down by choking back on the process line leading to the air pump (manual valves).

CAUTION: Contents in PK heat up quickly when chromic acid is added. If there is excessive outgassing from PK, stop pumping solution. Resume pumping when the steaming subsides using a slower rate.

***NEVER open the top loading port to relieve pressure on the blender as serious injury could occur.**

9) Continue rotating 5-10 minutes after all solution has been pumped, then turn off PK blender.
10) Turn Dust Collector valve to "UNLOAD" position.
11) Make sure [illegible] (located above control box) is open to PK butterfly valve. Open butterfly valve (Make sure arrow indicator is pointing upwards to open position.)
12) [illegible] PK into coated supersacks (67005970) with cardboard around.
13) [illegible]

1116 lbs TOTAL SOLUTION / BATCH

For SAP report "lbs as CrO3"
39 gal = 242 lb CrO3
(6.2# CrO3/gal soln)

Date	Time	Initials	Batch No.	Alumina Lot No.	Bag #	[illegible]	Dust Collector dP	Scrubber dP	Chromic Acid Sol'n (lbs)	Water (gal)
[illegible]	[illegible]	[illegible]	1	83958	[illegible]	[illegible]	[illegible]	[illegible]	480	74
[illegible]	[illegible]	[illegible]	[illegible]	83958	[illegible]	[illegible]	[illegible]	1.9	480	74
[illegible]	[illegible]	[illegible]	3	83982	[illegible]	[illegible]	[illegible]	2.0	480	74
[illegible]	[illegible]	[illegible]	4	83470	[illegible]	[illegible]	[illegible]	1.9	480	74
[illegible]	[illegible]	[illegible]	5	83453	[illegible]	[illegible]	[illegible]	[illegible]	480	74
[illegible]	[illegible]	[illegible]	6	83958	[illegible]	[illegible]	[illegible]	[illegible]	480	74
[illegible]	[illegible]	[illegible]	7	83982	[illegible]	[illegible]	[illegible]	[illegible]	480	74
5-?-16	7-3	33	8	83894	[illegible]	[illegible]	[illegible]	[illegible]		

Al Lot No.	Wa[illegible]

PK BLENDER

REDACTED

From: Brian James Beller
Sent: Tuesday, May 24, 2016 9:41 PM
To: Andrew Myers <andrew.myers@basf.com>; Brian James Beller <brian.beller@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Gregory A Menz <gregory.menz@basf.com>; Leon Zavodnik <leon.zavodnik@basf.com>; Robert Scoggins <robert.scoggins@basf.com>; Stefan Joseph Niewiadomski <stefan.niewiadomski@basf.com>; Terrence M VanDerbosch <terrence.vanderbosch@basf.com>
Cc: Andrea Bal <andrea.bal@basf.com>
Subject: PK blender solution line leaking

Greg,
Can you send Lucas to look at the solution line for the PK, it is still leaking. We locked out the system tonight and flushed out the lines so it should be ready for them in the morning.

Thanks

Brian Beller
Group Lead - South Production

Phone: 1 (440) 329-2561, Mobile: 1 (440) 242-8048, Email: brian.beller@basf.com
Postal Address: BASF Corporation, 120 Pine Street, 44035 Elyria, United States

[redacted]

From: Andrea Bal [mailto:andrea.bal@basf.com]
Sent: Friday, May 20, 2016 2:18 PM
To: Leon Zavodnik <leon.zavodnik@basf.com>
Subject: Change Management 0084-SOPS-16-0075: Ready For Approval

Change Management 0084-SOPS-16-0075 (Modify PK Blender Discharge Chute) is ready for your approval.

Please approve the change in the STARTUP APPROVAL tab.

Please click on the link below to view the document.

REDACTED

From: Andrew Myers
Sent: Thursday, May 12, 2016 10:41 PM
To: Andrea Bal <andrea.bal@basf.com>; Terrence M VanDerbosch <terrence.vanderbosch@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Brian James Beller <brian.beller@basf.com>; Leon Zavodnik <leon.zavodnik@basf.com>
Cc: Justin Quach <justin.quach@basf.com>
Subject: RE: South PK Blender Discharge Setup

I think eliminating the sock and going to something like we had talked about previously, the clamping on of a rubber boot would be the best option. We really should just try to enclose all the entire system to prevent any dusting from coming out of the system.

Regards,

Andrew Myers
Production Supervisor

Phone: 440-329-2588, Mobile: 440-420-0034, Email: andrew.myers@basf.com
Postal Address: 120 Pine St., 44035 Elyria,OH

[]

From: Andrea Bal
Sent: Thursday, May 12, 2016 4:51 PM
To: Terrence M VanDerbosch <terrence.vanderbosch@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Brian James Beller <brian.beller@basf.com>; Leon Zavodnik <leon.zavodnik@basf.com>; Andrew Myers <andrew.myers@basf.com>
Cc: Justin Quach <justin.quach@basf.com>
Subject: South PK Blender Discharge Setup

Hi All,

It was mentioned that the South PK Blender Discharge was "dusting" or "leaking". I'm not sure the exact details (maybe someone can fill me in?), but it sounds as if the sock was hitting the new chute causing excessive dust..?

A few ideas to correct this dusting:

-Bungie cord the sock tight so it is not loose and hitting the chute while rotating
-Reinstall the old chute which is lower to the platform
-Determine an alternative discharge funnel to replace the sock, possibly a removable discharge spout or intertube connection (will send pictures from Erie)

I would like to try the bungie cord solution as this seems to work on the North End blender. I'm concerned with the feasibility of having removable spout as I'm not sure if it would be dusting or how easy it is to reach the discharge from the ladder. Long term, I think the intertube could be the best solution.

Thoughts?

Best Regards,
Andrea

Andrea Bal
Production Engineer

Phone: +1 440-329-2549 Mobile: 440-225-4182 E-Mail: andrea.bal@basf.com
Postal Address: BASF Corporation, 120 Pine St., Elyria, OH 44035, USA

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[redacted]

From: Terrence M VanDerbosch
Sent: Saturday, April 16, 2016 10:14 PM
To: Leon Zavodnik <leon.zavodnik@basf.com>; John M Bodmann <john.bodmann@basf.com>; Kristen Kaput <kristen.kaput@basf.com>; Andrea Bal <andrea.bal@basf.com>; Justin Quach <justin.quach@basf.com>; William Grodecki <william.grodecki@basf.com>; William Owen Tuttle <william.o.tuttle@basf.com>; Brian James Beller <brian.beller@basf.com>; Andrew Myers <andrew.myers@basf.com>; Douglas John Stock <douglas.stock@basf.com>; Arthur J Hribar <art.hribar@basf.com>
Subject: Saturday notes

#1 MED running
#1RC restarted today and running

#2 MED finished the 15 batches that Justin requested
#2 RC restarted the feed in batch order

#3 extruder went down due to some brushes(?) That were ordered because of issues from last weekend. This is what I learned from Don Clark today. I am not an electrician, and do not understand what they do, but the issue is that the extruder starts, ramps up to speed, and immediately cuts off. I have had them try it a few times today to see if it would come back to life, but no dice.
#3 RC out of feed.

#4 RC cleaned and waiting

New pfaudler we lost vacuum overnight while trying to dry the first batch. Called everyone from maintenance. They could not figure it out since the pump would come on, and we had vacuum at the tower, but not at the pfaudler. Bill Deisenroth gave me the new contact from Lucas. He was able to send 2 guys in about 6pm tonight. They found a hole in the vacuum line on the roof. We are now back in business!

#5 RC waiting

#6 RC frustrating. The calciner lit on the first attempt yesterday. The dryer would not light. Electrician advised towards the end of the shift that it was the purge timer. I called all of maintenance, all electricians at home, then Callihan to try to get an electrician to come in. Nothing. Hopefully first thing in the morning we can get it lit.

PK blender had an issue last night. We were finally set up to run pill mix for the North end. Unfortunately, nobody was scheduled to work the weekend on the north end to empty the totes into their hoppers and return them. I had a quick talk with Abe and coordinated with Dave Hritsko, they got an operator to stay until 3am and cleaned a fourth tote, which

allowed us to double the batches after fighting with the dust collector to get it in range. The guys knocked out 3 batches between 7pm and 1am. We are still having issues with the dust collector, but were able to give them all that they could take. We have since switched over to bags for the south end.

Horne machine running pretty consistently

Tower 3 is loaded and running. Had an issue with the centerfix drainage line being plugged, but Evans got it fixed, and fired up last night.

Tower 6 was unloaded and a work order written to have Lucas drop the centerfix on Monday(per Kristen)

South screener running

Tk 4 running

Frustrating 24 hours, losing 3 out of the 4 top priorities. We just got the new pfaudler back, and hope to get 6 early tomorrow, but I am not sure where we are at with #3 extruder.

Stay tuned for tomorrow.

REDACTED

From: Leon Zavodnik
Sent: Wednesday, April 06, 2016 7:21 AM
To: Paul Ayers <paul.ayers@basf.com>
Cc: Michele Barney <michele.barney@basf.com>; Abe Ahmed <abdallah.ahmed@basf.com>
Subject: One pager again

Paul,

Use this one. The last one had two added slides in the deck. Note...the name is the same as the last file

Regards,
Leon Zavodnik
Operations Manager

Phone: +1 440 329-2592 Mobile: 440-821-6647 E-Mail: leon.zavodnik@basf.com
Postal Address: BASF Corporation, Elyria, 44035 Elyria, USA

150 years
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Permit Deviation – Building 9 Scrubber Elyria March 24, 2016

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Incident

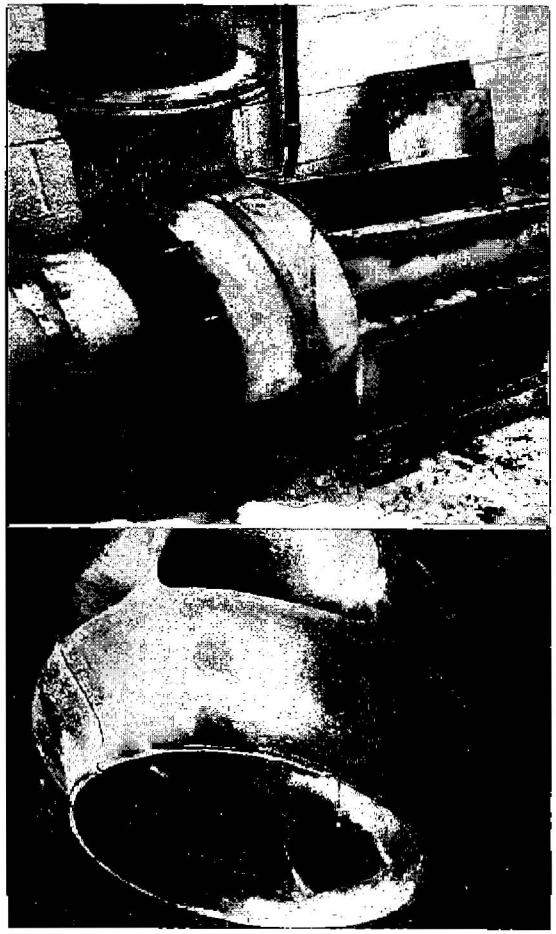
- The pressure drop on the Building 9 PK scrubber was below the minimum 2 inches of pressure drop. The scrubber services the PK blender solution tank. Although the pressure drop was low there was no environmental excursion.

Root Cause

- The scrubber blower cracked which caused the pressure drop to be very low. The blower fan has been repaired.
- The line to the scrubber was also partially blocked restricting flow to the scrubber and reducing pressure drop across the column

Measures

- The unit was shut down until it can be repaired
- The scrubber has been in service for over 20 years and this is the first blower failure. The PM will be reviewed to determine if any added inspection steps are required.
- Review the frequency that the line has to be cleaned to maintain adequate suction on the tanks



Change Management Form: 0084-SOPS-16-0075

Modify PK Blender Discharge Chute

ELYRIA - South Operation-Elyria

STATUS: **Closed**

1. Definition

Section 1: Change Definition

Section Status: **Complete**

Site *	Unit/Department *	Process Area	Change Number
ELYRIA	**South Operation-Elyria**	**General Catalyst – Building 9**	**0084-SOPS-16-0075**

Change Requestor	Change Coordinator (Project Eng./Mgr.)
Andrea Bal/NA/BASF	**Andrea Bal/NA/BASF**
Type of Change *	Target StartUp Date *
● Permanent ○ Temporary ☐ Emergency?	**05/23/2016**
Capital Project? *	
○ Yes ● No	

Change Title *

Modify PK Blender Discharge Chute

Description of Change * (Project Statement – attach drawing if possible)

Install quick disconnect chute attachment to connect top of existing discharge chute and bottom of PK blender in Building 9. The chute attachment to install would have gasket at bottom to seal to existing discharge chute and be able to slide back into existing chute when not in use. The new chute attachment would have a 1/4" round stock at the top to connect to a 1/4" round stock to be installed at the bottom of the PK blender. Eliminate the use of the discharge sock on the PK blender. See attached quote, drawing of change, and picture of current setup.

Current PK Setup.JPG PK Blender Chute Quote_DL Page.pdf PK Blender Chute Sketch.pdf

Technical Basis or Reason for Change * (Justification)

The quick disconnect chute attachment would seal up the gap between the existing PK sock and the discharge chute. This change is expected to greatly reducing the dusting from this area that occurs when discharging material from the blender. The chute will be easy to disconnect and store when not in use. The discharge sock will be eliminated, reducing the dusting from the butterfly valve area during the PK blender rotations.

Leaked Material.JPG

Submit To Approver *	Copy To
Leon Zavodnik/BASF-CATALYSTS/BASF	

Submitted by: Andrea Bal on 05/18/2016 04:37 PM

Initiated By: Andrea Bal/NA/BASF on 05/18/2016 04:21 PM

2. ApprovalToProceed

Section 2: Assign Technical Reviewers, Approval to Engineer

Section Status: **Complete**

Customer/Quality Review Needed? ** **N/A**	Customer Notification Status: **Not Applicable**

Confidential Information

Approval / Technical Review? ** ○ Yes ● No

Individual Approval / Review Needed? ** ○ Yes ● No

Unit Change Approver	Copy Additional Personnel
Leon Zavodnik/BASF-CATALYSTS/BASF	**Leon Zavodnik/BASF-CATALYSTS/BASF; Tim Anglin/EB-NAFTA/BASF; Noemi Trent/BASF-CATALYSTS/BASF; Abdallah**
Does this Change have the Unit's Approval to Proceed? **	Comments
Approved by: Leon Zavodnik on 05/18/2016 04:56 PM	

3. Risk

Section 3: Risk Assessment (Impact on Safety & Health)

Section Status: **Complete**

Select one or more methods **: ☒ Risk Level Assessment ☒ Mode of Failure ☐ PHA/Step Review/Other

Attach Associated Documents

Risk Assessment

Section I - Degree of Hazard **	
1. ○ Yes ● No	Does the change introduce or substantially affect a significant source of chemical, mechanical, thermal, or electrical energy? Examples: Installation / modification of 100 hp motor Increasing steam supply pressure to a vessel
2. ○ Yes ● No	Does the change result in any increase in inventory of toxic, flammable, or reactive (equivalent to a "4" rating in the NFPA or HMIS systems) materials? If so, is this a new threshold for PSM or RMP (or any relevant regulatory requirements) covered chemicals?
3. ○ Yes ● No	Are established PSM or RMP (worst case scenario) boundaries extended to new piping or equipment?
4. ○ Yes ● No	Will the changed process system contain any materials known or suspected to be thermally, chemically, or physically unstable in quantities or concentrations high enough to cause a hazard?
5. ○ Yes ● No	Does the change significantly increase the potential for personnel exposure to a hazardous material?
6. ○ Yes ● No	Does the change introduce or substantially affect any special or unique hazards that could cause significant negative community impact?

Hazard Rule: ● Low ○ High

Section II - Significance of Proposed Change **	
1. ○ Yes ● No	Could the change take the process outside previous limits of normal operation (that is, outside the well understood and documented "safe operating envelope") during steady state or transient conditions?
2. ○ Yes ● No	Does the change introduce molecules not already present in the process?
3. ○ Yes ● No	Are PSV's or rupture disks changed, affected, or bypassed?
4. ○ Yes ● No	Does the change re-order or alter the processing sequence and consequently by this alteration introduce a hazard?
5. ○ Yes ● No	Does the change significantly impact the energy balance or mass balance?
6. ○ Yes ● No	Does the change alter, affect, or bypass a safety device or a critical control system or component or are safety instrumented system (SIS) interlocks changed, affected, or bypassed?
7. ○ Yes ● No	Does the change necessitate significant or unique training for operators or technical personnel?
8. ○ Yes ● No	Does the existing system handle reactively incompatible materials in the same equipment during different sequences or campaigns?
Significance Rule: ● Low ○ High	

RISK LEVEL ASSESSMENT: ● Level 1 ○ Level 2 ○ Level 3 ○ Level 4

Mode of Failure Review

Potential Mode of Failure **	Hazard to Personnel / Other **	Existing / Needed? **	Control Measure **
No additional modes of failure were identified during the risk review	**n/a**	● E ○ N	**none additional**

Item	Description of Action Item	Responsible Person	Target Date	Complete Date

View Risk Level

RISK LEVEL ASSESSMENT **: ● Low ○ Medium ○ High ○ Critical Process

Assign By: Andrea Bal on 05/20/2016 02:17 PM

Reviewers for Impact on Safety & Health**
Andrea Bal/NA/BASF; Douglas Stock/NA/BASF

4. Checklist

Section 4: PSSR Checklist & Action Items

Section Status: **Complete**

CHECKLIST NAME	CHECKLIST STATUS
Pre-StartUp	**Complete**
Post-StartUp	**Complete**

Comments

Click on the Refresh button to ensure all action items are updated.

Items To Complete Prior To StartUp

Items May Be Completed After StartUp

Attachments

Batch answer by: Andrea Bal on 5/18/2016 4:41:06 PM (22 Pre-startup items)
Batch answer by: Andrea Bal on 5/18/2016 4:41:47 PM (10 Post-startup items)

5. Training

Section 5: Training Acknowledgement

Section Status: **Complete**

Click on the Refresh button to ensure all action items are updated.

Training needed for affected personnel

13. Inform Personnel of Change(s) by Lotus Notes DB	● Yes ○ No
14. Training with testing or other training means	○ Yes ● No
15. Contractor Employees informed / Trained and/or, BASF Employees not in department. Example, Maintenance employees	○ Yes ● No

StartUp Date / Time : 05/20/2016 05:00 PM

Additional Training Information

Contractors are not affected by this change. Operators will be informed via the MOC board and walk-through the equipment before running.

Temporary Procedure for PK Discharge Chute Modification.docx 0084-SOPS-16-0075.pdf

Notified by: Andrea Bal on 5/31/2016 3:39:09 PM
Notified by: Nancy Gallagher on 8/1/2016 9:46:01 AM

Reminder Mail Option is: **Disabled**

- **I have reviewed and understand the change(s) and/or I have been trained on/in the change and the affected procedures/hazards as they apply to my job task**

Personnel Notified	Signoff Date **

Brian Beller/NA/BASF	1 Aug 2016
Andrew Myers/NA/BASF	1 Jun 2016
Douglas Stock/NA/BASF	31 May 2016
	31 May 2016

6. PSSR

Section 6: PSSR Completion

Section Status: **Complete**

Item	Description	Signed By & Date **
A.	Construction and Equipment are in accordance with design specifications. **	Signed YES by Andrea Bal on 5/20/2016
B.	PSSR Long Form(s) required? **	Signed NO by Andrea Bal on 5/20/2016
C.	A field verification walk of all systems has been completed. ** Attachment(s) PK_Chute_Modification_MOC_0084-SOPS-16-0075_PSSR.pdf	Signed YES by Andrea Bal on 5/20/2016

StartUp Date	StartUp Time
05/20/2016	**05:00:00 PM**

No.	Walk-through Description	Complete	Completed By & Date

PSSR Date (**This field is required if Question B above is answered 'Yes')	PSSR Team Members (**This field is required if Question B above is answered 'Yes')	PSSR Team Members (not in DB)

7. StartupApproval

Section 7: Approval to StartUp

Section Status: **Complete**

StartUp Date / Time : 05/20/2016 05:00 PM

Approvals are required before StartUp according to site procedures.

Approver	Approved By
EHS	
TES	
Maintenance	
Construction	
Operations	
Other	
Other	

Unit Final Approver ** Leon Zavodnik/BASF-CATALYSTS/BASF	Leon Zavodnik on 05/20/2016

Approvers Notified by:
Andrea Bal on 5/20/2016 2:17:15 PM

8. Temporary

Section 8: Temporary Change Management - Not Applicable

9. Change Close Out

Section 9: Change Close Out

Section 1: Change Definition	**Complete**
Section 2: Assign Technical Reviewers, Approval to Proceed	**Complete**
Section 3: Risk Assessment (Impact on Safety and Health)	**Complete**
Section 4: PSSR Checklist and Action Items	**Complete**
Section 5: Training Acknowledgement	**Complete**
Section 6: PSSR Completion	**Complete**
Section 7: Approval to StartUp	**Complete**
Section 8: Temporary Change Management	**Not Applicable**

Comments:

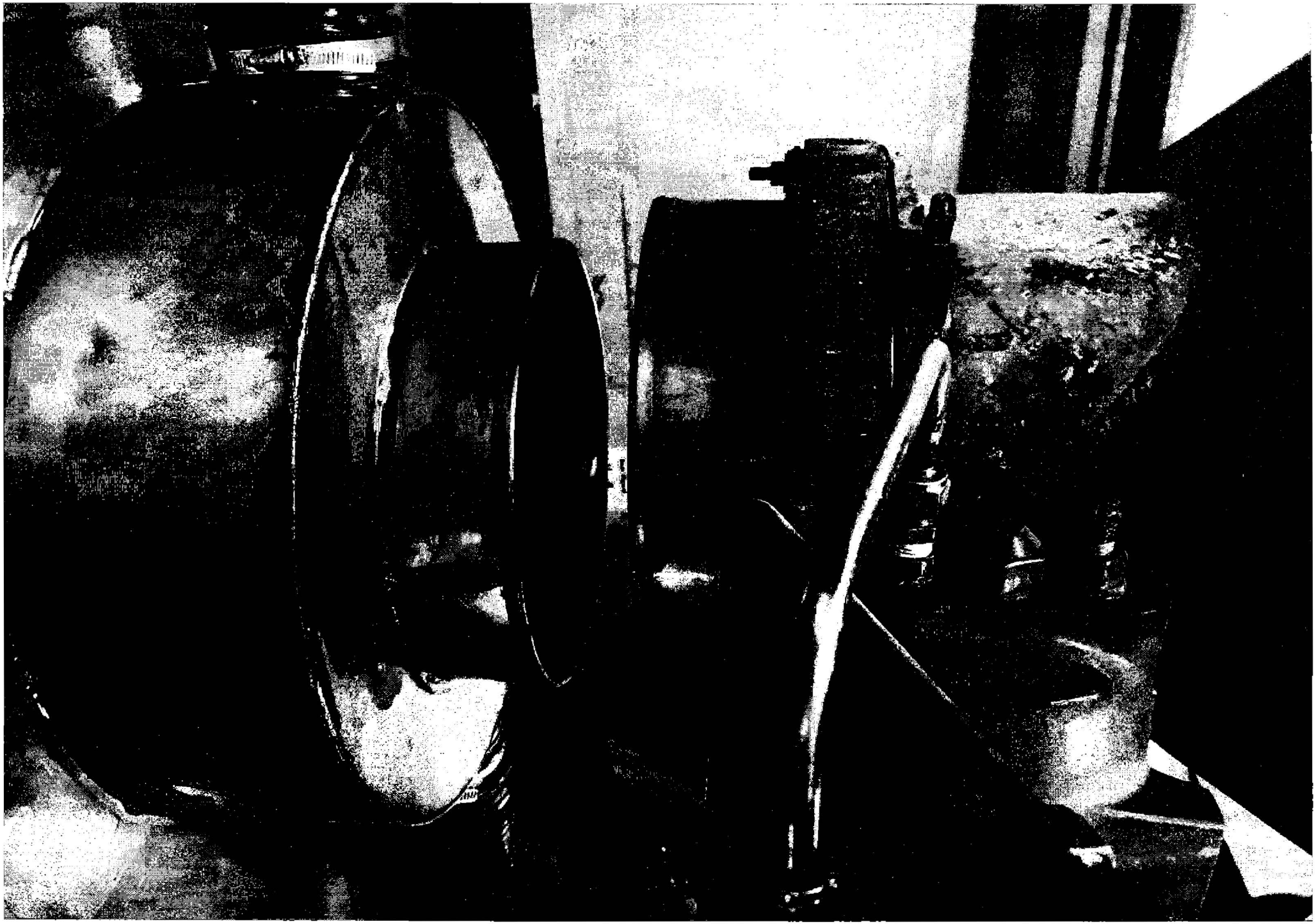
Closed by: Andrea Bal on 11/7/2016 11:16:30 AM

EditHistory

Edit History

Editor	Date & Time
Andrea Bal	11/07/2016 11:16 AM
Brian Beller	08/01/2016 10:01 AM
Nancy Gallagher	08/01/2016 09:46 AM
Andrew Myers	06/01/2016 08:19 AM
Terrence M Vanderbosch	05/31/2016 11:05 PM
Douglas Stock	05/31/2016 06:16 PM
Andrea Bal	05/31/2016 03:39 PM
Leon Zavodnik	05/20/2016 02:51 PM
Andrea Bal	05/20/2016 02:17 PM
Andrea Bal	05/20/2016 02:14 PM
Leon Zavodnik	05/18/2016 04:57 PM
	05/18/2016 04:44 PM

Andrea Bal



D.L. Page Inc.
SHEET METAL CONTRACTORS
COMMERCIAL AND INDUSTRIAL
P.O. BOX 1257 \ 1213 TAYLOR STREET \ ELYRIA, OHIO 44036-1257
PHONE (440) 365-8311 / FAX (440) 366-1456

QUOTATION

FIRM: BASF CORP. 120 PINE STREET, ELYRIA OHIO

DATE: **5/18/16**

ATTN: **ANDREA BAL**

WE ARE PLEASED TO QUOTE ON PROVIDING MATERIAL, LABOR AND SUPERVISION FOR THE FOLLOWING PROJECT.

B-9 MODIFY PK BLENDER DISCHARGE CHUTE

non-responsive

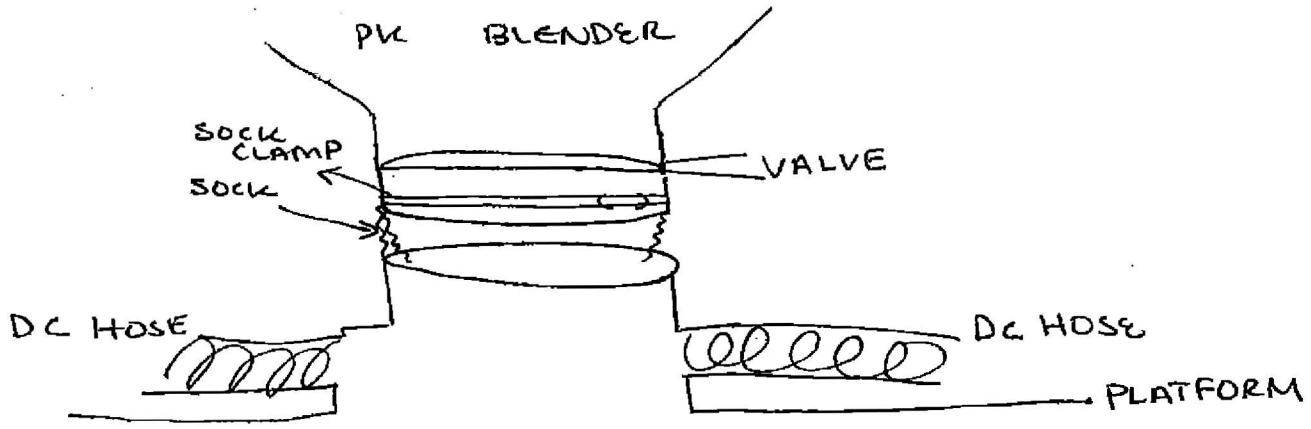
RESPECTFULLY SUBMITTED,

PAUL BISHOP
D.L. PAGE, INC.

PK BLENDER DISCHARGE CHUTE MODIFICATION SKETCH

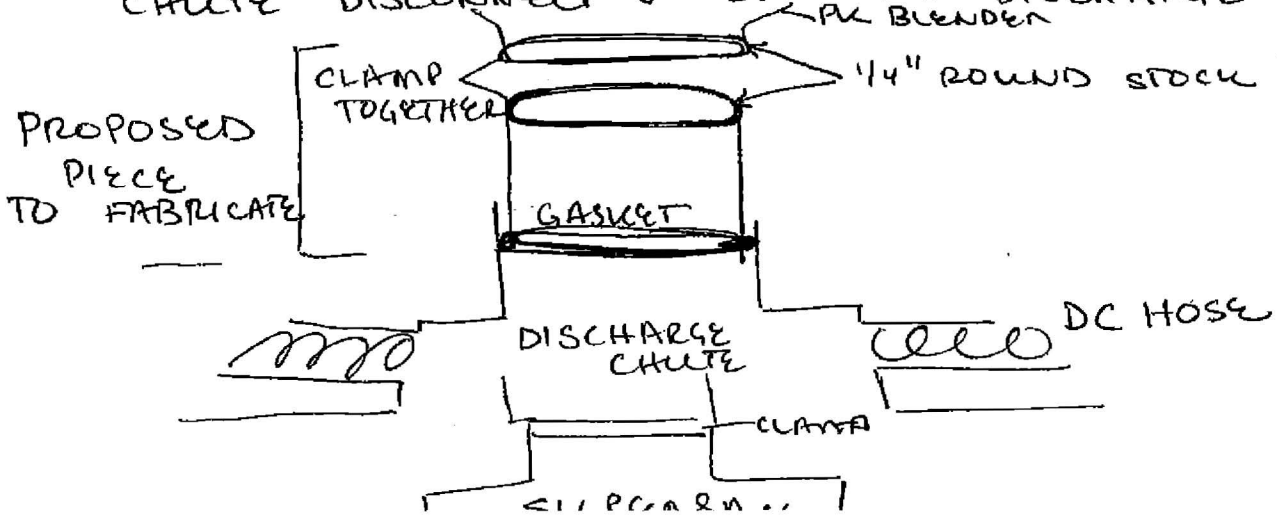
A. BAL 5/18/16

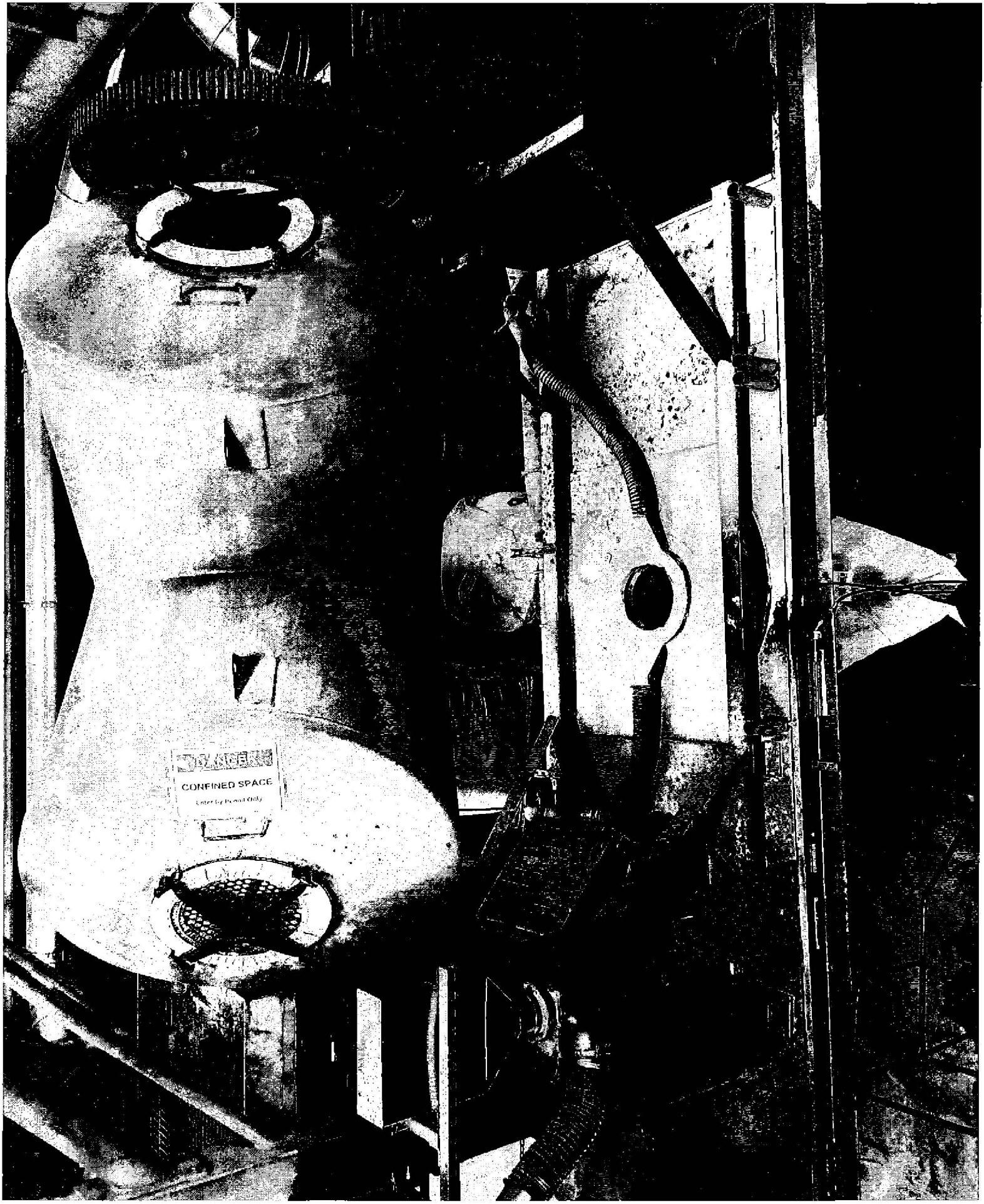
CURRENT SET-UP



PROPOSED CHANGE

- REMOVE SOCK & SOCK CLAMP
- INSTALL 1/4" ROUND STOCK ON TOP OF CHUTE & BOTTOM OF PK BLENDER TO CONNECT QUICK CONNECT CLAMPS
- INSTALL 12 1/2" CHUTE WITH GASKET & BOTTOM
- CHUTE SLIDE UP & CONNECT TO BOTTOM OF PK
- CHUTE DISCONNECT & SIT IN DISCHARGE CHUTE




CONFINED SPACE